



## Sequence Listing

<110> Lee, Chichang; Ly, Celia; Moore, Gordon; Chi, Xiamei; Centocor, Inc.

<120> Methods and Compositions for Enhanced Protein Expression and/or Growth of Cultured Cells Using Co-Transcription of a Bcl2 Encoding Nucleic Acid

<130> CEN0269 PCT

<140> PCT/US01/45553

<141> 2001-11-02

<160> 14

<170> PatentIn Ver 3.1

<210> 1

<211> 239

<212> PRT

<213> Homo sapiens

<400> 1

Met Ala His Ala Gly Arg Thr Gly Tyr Asp Asn Arg Glu Ile Val Met

1 5 10 15

Lys Tyr Ile His Tyr Lys Leu Ser Gln Arg Gly Tyr Glu Trp Asp Ala

20 25 30

Gly Asp Val Gly Ala Ala Pro Pro Gly Ala Ala Pro Ala Pro Gly Ile

35 40 45

Phe Ser Ser Gln Pro Gly His Thr Pro His Pro Ala Ala Ser Arg Asp

50 55 60

Pro Val Ala Arg Thr Ser Pro Leu Gln Thr Pro Ala Ala Pro Gly Ala

65 70 75 80

Ala Ala Gly Pro Ala Leu Ser Pro Val Pro Pro Val Val His Leu Ala  
85 90 95

Leu Arg Gln Ala Gly Asp Asp Phe Ser Arg Arg Tyr Arg Gly Asp Phe  
100 105 110

Ala Glu Met Ser Ser Gln Leu His Leu Thr Pro Phe Thr Ala Arg Gly  
115 120 125

Arg Phe Ala Thr Val Val Glu Glu Leu Phe Arg Asp Gly Val Asn Trp  
130 135 140

Gly Arg Ile Val Ala Phe Phe Glu Phe Gly Gly Val Met Cys Val Glu  
145 150 155 160

Ser Val Asn Arg Glu Met Ser Pro Leu Val Asp Asn Ile Ala Leu Trp  
165 170 175

Met Thr Glu Tyr Leu Asn Arg His Leu His Thr Trp Ile Gln Asp Asn  
180 185 190

Gly Gly Trp Asp Ala Phe Val Glu Leu Tyr Gly Pro Ser Met Arg Pro  
195 200 205

Leu Phe Asp Phe Ser Trp Leu Ser Leu Lys Thr Leu Leu Ser Leu Ala  
210 215 220

Leu Val Gly Ala Cys Ile Thr Leu Gly Ala Tyr Leu Ser His Lys  
225 230 235

<210> 2

<211> 205

<212> PRT

<213> Homo sapiens

<400> 2

Met Ala His Ala Gly Arg Thr Gly Tyr Asp Asn Arg Glu Ile Val Met  
1 5 10 15

Lys Tyr Ile His Tyr Lys Leu Ser Gln Arg Gly Tyr Glu Trp Asp Ala  
20 25 30

Gly Asp Val Gly Ala Ala Pro Pro Gly Ala Ala Pro Ala Pro Gly Ile  
35 40 45

Phe Ser Ser Gln Pro Gly His Thr Pro His Pro Ala Ala Ser Arg Asp  
50 55 60

Pro Val Ala Arg Thr Ser Pro Leu Gln Thr Pro Ala Ala Pro Gly Ala  
65 70 75 80

Ala Ala Gly Pro Ala Leu Ser Pro Val Pro Pro Val Val His Leu Ala  
85 90 95

Leu Arg Gln Ala Gly Asp Asp Phe Ser Arg Arg Tyr Arg Gly Asp Phe  
100 105 110

Ala Glu Met Ser Ser Gln Leu His Leu Thr Pro Phe Thr Ala Arg Gly  
115 120 125

Arg Phe Ala Thr Val Val Glu Glu Leu Phe Arg Asp Gly Val Asn Trp  
130 135 140

Gly Arg Ile Val Ala Phe Phe Glu Phe Gly Gly Val Met Cys Val Glu  
145 150 155 160

Ser Val Asn Arg Glu Met Ser Pro Leu Val Asp Asn Ile Ala Leu Trp  
165 170 175

Met Thr Glu Tyr Leu Asn Arg His Leu His Thr Trp Ile Gln Asp Asn  
180 185 190

Gly Gly Trp Val Gly Ala Ser Gly Asp Val Ser Leu Gly

195 200 205

<210> 3

<211> 239

<212> PRT

<213> Homo sapiens

<400> 3

Met Ala His Ala Gly Arg Thr Gly Tyr Asp Asn Arg Glu Ile Val Met

1 5 10 15

Lys Tyr Ile His Tyr Lys Leu Ser Gln Arg Gly Tyr Glu Trp Asp Ala

20 25 30

Gly Asp Val Gly Ala Ala Pro Pro Gly Ala Ala Pro Ala Pro Gly Ile

35 40 45

Phe Ser Ser Gln Pro Gly His Thr Pro His Pro Ala Ala Ser Arg Asp

50 55 60

Pro Val Ala Arg Thr Ser Pro Leu Gln Thr Pro Ala Ala Pro Gly Ala

65 70 75 80

Ala Ala Gly Pro Ala Leu Ser Pro Val Pro Pro Val Val His Leu Ala

85 90 95

Leu Arg Gln Ala Gly Asp Asp Phe Ser Arg Arg Tyr Arg Gly Asp Phe

100 105 110

Ala Glu Met Ser Ser Gln Leu His Leu Thr Pro Phe Thr Ala Arg Gly

115 120 125

Arg Phe Ala Thr Val Val Glu Glu Leu Phe Arg Asp Gly Val Asn Trp

130 135 140

Gly Arg Ile Val Ala Phe Phe Glu Phe Gly Gly Val Met Cys Val Glu

145 150 155

Ser Val Asn Arg Glu Met Ser Pro Leu Val Asp Asn Ile Ala Leu Trp  
165                      170                      175                      180

Met Thr Glu Tyr Leu Asn Arg His Leu His Thr Trp Ile Gln Asp Asn  
                    180                      185                      190

Gly Gly Trp Asp Ala Phe Val Glu Leu Tyr Gly Pro Ser Met Arg Pro  
                    195                      200                      205

Leu Phe Asp Phe Ser Trp Leu Ser Leu Lys Thr Leu Leu Ser Leu Ala  
                    210                      215                      220

Leu Val Gly Ala Cys Ile Thr Leu Gly Ala Tyr Leu Ser His Lys  
225                      230                      235

<210> 4

<211> 21

<212> PRT

<213> Homo sapiens

<400> 4

Asp Met Phe Ser Asp Gly Asn Phe Asn Trp Val Arg Val Val Ala Leu  
1                      5                      10                      15

Phe Tyr Phe Ala Ser  
                    20

<210> 5

<211> 175

<212> PRT

<213> Homo sapiens

<400> 5

Met Asp Glu Asp Val Leu Pro Gly Glu Val Leu Ala Ile Glu Gly Ile  
1                      5                      10                      15

Phe Met Ala Cys Gly Leu Asn Glu Pro Glu Tyr Leu Tyr His Pro Leu  
20 25 30

Leu Ser Pro Ile Lys Leu Tyr Ile Thr Gly Leu Met Arg Asp Lys Glu  
35 40 45

Ser Leu Phe Glu Ala Met Leu Ala Asn Val Arg Phe His Ser Thr Thr  
50 55 60

Gly Ile Asn Gln Leu Gly Leu Ser Met Leu Gln Val Ser Gly Asp Gly  
65 70 75 180

Asn Met Asn Trp Gly Arg Ala Leu Ala Ile Leu Thr Phe Gly Ser Phe  
85 90 95

Val Ala Gln Lys Leu Ser Asn Glu Pro His Leu Arg Asp Phe Ala Leu  
100 105 110

Ala Val Leu Pro Val Tyr Ala Tyr Glu Ala Ile Gly Pro Gln Trp Phe  
115 120 125

Arg Ala Arg Gly Gly Trp Arg Gly Leu Lys Ala Tyr Cys Thr Gln Val  
130 135 140

Leu Thr Arg Arg Arg Gly Arg Arg Met Thr Ala Leu Leu Gly Ser Ile  
145 150 155 160

Ala Leu Leu Ala Thr Ile Leu Ala Ala Val Ala Met Ser Arg Arg  
165 170 175

<210> 6

<211> 211

<212> PRT

<213> Homo sapiens

<400> 6

Met Ala Ser Gly Gln Gly Pro Gly Pro Pro Arg Gln Glu Cys Gly Glu  
1 5 10 15

Pro Ala Leu Pro Ser Ala Ser Glu Glu Gln Val Ala Gln Asp Thr Glu  
20 25 30

Glu Val Phe Arg Ser Tyr Val Phe Tyr Arg His Gln Gln Glu Gln Glu  
35 40 45

Ala Glu Gly Val Ala Ala Pro Ala Asp Pro Glu Met Val Thr Leu Pro  
50 55 60

Leu Gln Pro Ser Ser Thr Met Gly Gln Val Gly Arg Gln Leu Ala Ile  
65 70 75 80

Ile Gly Asp Asp Ile Asn Arg Arg Tyr Asp Ser Glu Phe Gln Thr Met  
85 90 95

Leu Gln His Leu Gln Pro Thr Ala Glu Asn Ala Tyr Glu Tyr Phe Thr  
100 105 110

Lys Ile Ala Thr Ser Leu Phe Glu Ser Gly Ile Asn Trp Gly Arg Val  
115 120 125

Val Ala Leu Leu Gly Phe Gly Tyr Arg Leu Ala Leu His Val Tyr Gln  
130 135 140

His Gly Leu Thr Gly Phe Leu Gly Gln Val Thr Arg Phe Val Val Asp  
145 150 155 160

Phe Met Leu His His Cys Ile Ala Arg Trp Ile Ala Gln Arg Gly Gly  
165 170 175

Trp Val Ala Ala Leu Asn Leu Gly Asn Gly Pro Ile Leu Asn Val Leu  
180 185 190

Val Val Leu Gly Val Val Leu Leu Gly Gln Phe Val Val Arg Arg Phe

195 200 205

Phe Lys Ser

210

<210> 7

<211> 170

<212> PRT

<213> Homo sapiens

<400> 7

Met Ser Gln Ser Asn Arg Glu Leu Val Val Asp Phe Leu Ser Tyr Lys

1 5 10 15

Leu Ser Gln Lys Gly Tyr Ser Trp Ser Gln Phe Ser Asp Val Glu Glu

20 25 30

Asn Arg Thr Glu Ala Pro Glu Gly Thr Glu Ser Glu Met Glu Thr Pro

35 40 45

Ser Ala Ile Asn Gly Asn Pro Ser Trp His Leu Ala Asp Ser Pro Ala

50 55 60

Val Asn Gly Ala Thr Gly His Ser Ser Ser Leu Asp Ala Arg Glu Val

65 70 75 80

Ile Pro Met Ala Ala Val Lys Gln Ala Leu Arg Glu Ala Gly Asp Glu

85 90 95

Phe Glu Leu Arg Tyr Arg Arg Ala Phe Ser Asp Leu Thr Ser Gln Leu

100 105 110

His Ile Thr Pro Gly Thr Ala Tyr Gln Ser Phe Glu Gln Asp Thr Phe

115 120 125

Val Glu Leu Tyr Gly Asn Asn Ala Ala Ala Glu Ser Arg Lys Gly Gln



130	135	140	
Glu Arg Phe Asn Arg Trp Phe Leu Thr Gly Met Thr Val Ala Gly Val			
145	150	155	160
Val Leu Leu Gly Ser Leu Phe Ser Arg Lys			
	165	170	
<210> 8			
<211> 160			
<212> PRT			
<213> Homo sapiens			
<400> 8			
Met Ser Glu Val Arg Pro Leu Ser Arg Asp Ile Leu Met Glu Thr Leu			
1	5	10	15
Leu Tyr Glu Gln Leu Leu Glu Pro Pro Thr Met Glu Val Leu Gly Met			
	20	25	30
Thr Asp Ser Glu Glu Asp Leu Asp Pro Met Glu Asp Phe Asp Ser Leu			
	35	40	45
Glu Cys Met Glu Gly Ser Asp Ala Leu Ala Leu Arg Leu Ala Cys Ile			
	50	55	60
Gly Asp Glu Met Asp Val Ser Leu Arg Ala Pro Arg Leu Ala Gln Leu			
65	70	75	80
Ser Glu Val Ala Met His Ser Leu Gly Leu Ala Phe Ile Tyr Asp Gln			
	85	90	95
Thr Glu Asp Ile Arg Asp Val Leu Arg Ser Phe Met Asp Gly Phe Thr			
	100	105	110
Thr Leu Lys Glu Asn Ile Met Arg Phe Trp Arg Ser Pro Asn Pro Gly			
	115	120	125

Ser Trp Val Ser Cys Glu Gln Val Leu Leu Ala Leu Leu Leu Leu  
130 135 140

Ala Leu Leu Leu Pro Leu Leu Ser Gly Gly Leu His Leu Leu Leu Lys  
145 150 155 160

<210> 9

<211> 218

<212> PRT

<213> Homo sapiens

<400> 9

Met Asp Gly Ser Gly Glu Gln Pro Arg Gly Gly Gly Pro Thr Ser Ser  
1 5 10 15

Glu Gln Ile Met Lys Thr Gly Ala Leu Leu Leu Gln Gly Phe Ile Gln  
20 25 30

Asp Arg Ala Gly Arg Met Gly Gly Glu Ala Pro Glu Leu Ala Leu Asp  
35 40 45

Pro Val Pro Gln Asp Ala Ser Thr Lys Lys Leu Ser Glu Cys Leu Lys  
50 55 60

Arg Ile Gly Asp Glu Leu Asp Ser Asn Met Glu Leu Gln Arg Met Ile  
65 70 75 80

Ala Ala Val Asp Thr Asp Ser Pro Arg Glu Val Phe Phe Arg Val Ala  
85 90 95

Ala Asp Met Phe Ser Asp Gly Asn Phe Asn Trp Gly Arg Val Val Ala  
100 105 110

Leu Phe Tyr Phe Ala Ser Lys Leu Val Leu Lys Ala Leu Cys Thr Lys  
115 120 125

Val Pro Glu Leu Ile Arg Thr Ile Met Gly Trp Thr Leu Asp Phe Leu  
130 135 140

Arg Glu Arg Leu Leu Gly Trp Ile Gln Asp Gln Gly Gly Trp Val Arg  
145 150 155 160

Leu Leu Lys Pro Pro His Pro His His Arg Ala Leu Thr Thr Ala Pro  
165 170 175

Ala Pro Pro Ser Leu Pro Pro Ala Thr Pro Leu Gly Pro Trp Ala Phe  
180 185 190

Trp Ser Arg Ser Gln Trp Cys Pro Leu Pro Ile Phe Arg Ser Ser Asp  
195 200 205

Val Val Tyr Asn Ala Phe Ser Leu Arg Val  
210 215

<210> 10

<211> 239

<212> PRT

<213> Homo sapiens

<400> 10

Met Ala His Ala Gly Arg Thr Gly Tyr Asp Asn Arg Glu Ile Val Met  
1 5 10 15

Lys Tyr Ile His Tyr Lys Leu Ser Gln Arg Gly Tyr Glu Trp Asp Ala  
20 25 30

Gly Asp Val Gly Ala Ala Pro Pro Gly Ala Ala Pro Ala Pro Gly Ile  
35 40 45

Phe Ser Ser Gln Pro Gly His Thr Pro His Pro Ala Ala Ser Arg Asp  
50 55 60

Pro Val Ala Arg Thr Ser Pro Leu Gln Thr Pro Ala Ala Pro Gly Ala

65	70	75	80
Ala Ala Gly Pro Ala Leu Ser Pro Val Pro Pro Val Val His Leu Thr			
	85	90	95
Leu Arg Gln Ala Gly Asp Asp Phe Ser Arg Arg Tyr Arg Arg Asp Phe			
	100	105	110
Ala Glu Met Ser Ser Gln Leu His Leu Thr Pro Phe Thr Ala Arg Gly			
	115	120	125
Arg Phe Ala Thr Val Val Glu Glu Leu Phe Arg Asp Gly Val Asn Trp			
	130	135	140
Gly Arg Ile Val Ala Phe Phe Glu Phe Gly Gly Val Met Cys Val Glu			
145	150	155	160
Ser Val Asn Arg Glu Met Ser Pro Leu Val Asp Asn Ile Ala Leu Trp			
	165	170	175
Met Thr Glu Tyr Leu Asn Arg His Leu His Thr Trp Ile Gln Asp Asn			
	180	185	190
Gly Gly Trp Asp Ala Phe Val Glu Leu Tyr Gly Pro Ser Met Arg Pro			
	195	200	205
Leu Phe Asp Phe Ser Trp Leu Ser Leu Lys Thr Leu Leu Ser Leu Ala			
	210	215	220
Leu Val Gly Ala Cys Ile Thr Leu Gly Ala Tyr Leu Gly His Lys			
225	230	235	

<210> 11

<211> 205

<212> PRT

<213> Homo sapiens

<400> 11

Met Ala His Ala Gly Arg Thr Gly Tyr Asp Asn Arg Glu Ile Val Met

1 5 10 15

Lys Tyr Ile His Tyr Lys Leu Ser Gln Arg Gly Tyr Glu Trp Asp Ala

20 25 30

Gly Asp Val Gly Ala Ala Pro Pro Gly Ala Ala Pro Ala Pro Gly Ile

35 40 45

Phe Ser Ser Gln Pro Gly His Thr Pro His Pro Ala Ala Ser Arg Asp

50 55 60

Pro Val Ala Arg Thr Ser Pro Leu Gln Thr Pro Ala Ala Pro Gly Ala

65 70 75 80

Ala Ala Gly Pro Ala Leu Ser Pro Val Pro Pro Val Val His Leu Ala

85 90 95

Leu Arg Gln Ala Gly Asp Asp Phe Ser Arg Arg Tyr Arg Gly Asp Phe

100 105 110

Ala Glu Met Ser Ser Gln Leu His Leu Thr Pro Phe Thr Ala Arg Gly

115 120 125

Arg Phe Ala Thr Val Val Glu Glu Leu Phe Arg Asp Gly Val Asn Trp

130 135 140

Gly Arg Ile Val Ala Phe Phe Glu Phe Gly Gly Val Met Cys Val Glu

145 150 155 160

Ser Val Asn Arg Glu Met Ser Pro Leu Val Asp Asn Ile Ala Leu Trp

165 170 175

Met Thr Glu Tyr Leu Asn Arg His Leu His Thr Trp Ile Gln Asp Asn

180 185 190

Gly Gly Trp Val Gly Ala Ser Gly Asp Val Ser Leu Gly  
195 200 205

<210> 12

<211> 245

<212> PRT

<213> Homo sapiens

<400> 12

Leu Ala Gln Arg Gly Gly Ala Arg Arg Pro Arg Gly Asp Arg Glu Arg  
1 5 10 15

Leu Gly Ser Arg Leu Arg Ala Leu Arg Pro Gly Arg Glu Pro Arg Gln  
20 25 30

Ser Glu Pro Pro Ala Gln Arg Gly Pro Pro Pro Ser Arg Arg Pro Pro  
35 40 45

Ala Arg Ser Thr Ala Ser Gly His Asp Arg Pro Thr Arg Gly Ala Ala  
50 55 60

Ala Gly Ala Arg Arg Pro Arg Met Lys Lys Lys Thr Arg Arg Arg Ser  
65 70 75 80

Thr Arg Ser Glu Glu Leu Thr Arg Ser Glu Glu Leu Thr Leu Ser Glu  
85 90 95

Glu Ala Thr Trp Ser Glu Glu Ala Thr Gln Ser Glu Glu Ala Thr Gln  
100 105 110

Gly Glu Glu Met Asn Arg Ser Gln Glu Val Thr Arg Asp Glu Glu Ser  
115 120 125

Thr Arg Ser Glu Glu Val Thr Arg Glu Glu Met Ala Ala Ala Gly Leu  
130 135 140

Thr Val Thr Val Thr His Ser Asn Glu Lys His Asp Leu His Val Thr

145                      150                      155                      160  
Ser Gln Gln Gly Ser Ser Glu Pro Val Val Gln Asp Leu Ala Gln Val  
                         165                      170                      175  
Val Glu Glu Val Ile Gly Val Pro Gln Ser Phe Gln Lys Leu Ile Phe  
                         180                      185                      190  
Lys Gly Lys Ser Leu Lys Glu Met Glu Thr Pro Leu Ser Ala Leu Gly  
                         195                      200                      205  
Ile Gln Asp Gly Cys Arg Val Met Leu Ile Gly Lys Lys Asn Ser Pro  
                         210                      215                      220  
Gln Glu Glu Val Glu Leu Lys Lys Leu Lys His Leu Glu Lys Ser Val  
225                      230                      235                      240  
Glu Lys Ile Ala Asp Gln Leu Glu Glu Leu Asn Lys Glu Leu Thr Gly  
                         245                      250                      255  
Ile Gln Gln Gly Phe Leu Pro Lys Asp Leu Gln Ala Glu Ala Leu Cys  
                         260                      265                      270  
Lys Leu Asp Arg Arg Val Lys Ala Thr Ile Glu Gln Phe Met Lys Ile  
                         275                      280                      285  
Leu Glu Glu Ile Asp Thr Leu Ile Leu Pro Glu Asn Phe Lys Asp Ser  
                         290                      295                      300  
Arg Leu Lys Arg Lys Gly Leu Val Lys Lys Val Gln Ala Phe Leu Ala  
305                      310                      315                      320  
Glu Cys Asp Thr Val Glu Gln Asn Ile Cys Gln Glu Thr Glu Arg Leu  
                         325                      330                      335  
Gln Ser Thr Asn Phe Ala Leu Ala Glu  
                         340                      345

<210> 13

<211> 239

<212> PRT

<213> Homo sapiens

<400> 13

Met Ala His Ala Gly Arg Thr Gly Tyr Asp Asn Arg Glu Ile Val Met

1 5 10 15

Lys Tyr Ile His Tyr Lys Leu Ser Gln Arg Gly Tyr Glu Trp Asp Ala

20 25 30

Gly Asp Val Gly Ala Ala Pro Pro Gly Ala Ala Pro Ala Pro Gly Ile

35 40 45

Phe Ser Ser Gln Pro Gly His Thr Pro His Pro Ala Ala Ser Arg Asp

50 55 60

Pro Val Ala Arg Thr Ser Pro Leu Gln Thr Pro Ala Ala Pro Gly Ala

65 70 75 80

Ala Ala Gly Pro Ala Leu Ser Pro Val Pro Pro Val Val His Leu Thr

85 90 95

Leu Arg Gln Ala Gly Asp Asp Phe Ser Arg Arg Tyr Arg Arg Asp Phe

100 105 110

Ala Glu Met Ser Ser Gln Leu His Leu Thr Pro Phe Thr Ala Arg Gly

115 120 125

Arg Phe Ala Thr Val Val Glu Glu Leu Phe Arg Asp Gly Val Asn Trp

130 135 140

Gly Arg Ile Val Ala Phe Phe Glu Phe Gly Gly Val Met Cys Val Glu

145 150 155 160



Ser Val Asn Arg Glu Met Ser Pro Leu Val Asp Asn Ile Ala Leu Trp  
165 170 175

Met Thr Glu Tyr Leu Asn Arg His Leu His Thr Trp Ile Gln Asp Asn  
180 185 190

Gly Gly Trp Asp Ala Phe Val Glu Leu Tyr Gly Pro Ser Met Arg Pro  
195 200 205

Leu Phe Asp Phe Ser Trp Leu Ser Leu Lys Thr Leu Leu Ser Leu Ala  
210 215 220

Leu Val Gly Ala Cys Ile Thr Leu Gly Ala Tyr Leu Gly His Lys  
225 230 235

<210> 14

<211> 195

<212> PRT

<213> Homo sapiens

<400> 14

Met Asp Cys Glu Val Asn Asn Gly Ser Ser Leu Arg Asp Glu Cys Ile  
1 5 10 15

Thr Asn Leu Leu Val Phe Gly Phe Leu Gln Ser Cys Ser Asp Asn Ser  
20 25 30

Phe Arg Arg Glu Leu Asp Ala Leu Gly His Glu Leu Pro Val Leu Ala  
35 40 45

Pro Gln Trp Glu Gly Tyr Asp Glu Leu Gln Thr Asp Gly Asn Arg Ser  
50 55 60

Ser His Ser Arg Leu Gly Arg Ile Glu Ala Asp Ser Glu Ser Gln Glu  
65 70 75 80

Asp Ile Ile Arg Asn Ile Ala Arg His Leu Ala Gln Val Gly Asp Ser  
85 90 95

Met Asp Arg Ser Ile Pro Pro Gly Leu Val Asn Gly Leu Ala Leu Gln  
100 105 110

Leu Arg Asn Thr Ser Arg Ser Glu Glu Asp Arg Asn Arg Asp Leu Ala  
115 120 125

Thr Ala Leu Glu Gln Leu Leu Gln Ala Tyr Pro Arg Asp Met Glu Lys  
130 135 140

Glu Lys Thr Met Leu Val Leu Ala Leu Leu Leu Ala Lys Lys Val Ala  
145 150 155 160

Ser His Thr Pro Ser Leu Leu Arg Asp Val Phe His Thr Thr Val Asn  
165 170 175

Phe Ile Asn Gln Asn Leu Arg Thr Tyr Val Arg Ser Leu Ala Arg Asn  
180 185 190

Gly Met Asp  
195

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